



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,988	12/30/2003	David P. Goren	A35489-072797.0154	8253
30636 7590 12/10/2007 FAY KAPLUN & MARCIN, LLP 150 BROADWAY, SUITE 702 NEW YORK, NY 10038			EXAMINER NGUYEN, DUC M	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 12/10/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/748,988

Applicant(s)

GOREN, DAVID P.

Examiner

Duc M. Nguyen

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-13 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

This action is in response to applicant's response filed on 9/25/07. Claims 1, 3-4, 6-14 are now pending in the present application. **This action is made final.**

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1, 3-4, 6** are rejected under 35 U.S.C. 102(b) as being anticipated by **Gong et al (US Pat. Number 2005/0032531)**.

Regarding claim **1**, **Gong** teaches a wireless local area network wherein mobile units are provided with radios for transmitting and receiving data communications messages between said mobile units and fixed access points (see Fig. 1 and [0026]), and wherein said mobile units are located using signal strength for radio communications between said mobile units and said access points (see Fig. 3 and [0048], [0054]), the improvement wherein at least some of said access points are provided with antennas having antenna patterns with selected pattern shape for enhancing location of said mobile units (see [0028-0032], [0039], [0045]), wherein said

selected pattern shapes include horizontally offset directional antenna patterns (see Figs. 1B, 2A and [0028-0032]).

Regarding claim **3**, the claim is rejected for the same reason as set forth in claim 1 above. In addition, **Gong** would teach said horizontally offset directional antenna patterns are horizontally offset in angular direction(see [0028-0032]).

Regarding claim **4**, the claim is rejected for the same reason as set forth in claim 1 above. In addition, **Gong** would teach at least some of said antenna patterns offset in angular direction are provided by an antenna having multiple angularly offset beams (see [0028-0032]).

Regarding claim **6**, the claim is rejected for the same reason as set forth in claim 1 above. In addition, **Gong** would teach said antennas having angularly offset beams are connected to multiple access point circuits (see [0046, 0054]).

### ***Claim Rejections - 35 USC 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **7-11** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Gong**.

Regarding claim **7**, the claim is rejected for the same reason as set forth in claim 1 above. In addition, since mounting antennas near the periphery (i.e, corners, entry) of a facility is well known in the art, it would have been obvious to one skilled in the art at the time the invention was made to modify Gong for mounting said antennas near the periphery of a facility as claimed, for maximizing a coverage area of a directional antenna beam in an indoor facility.

Regarding claim **8**, the claim is rejected for the same reason as set forth in claim 1 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify Gong for providing said horizontally offset directional beams in a horizontally offset in position as claimed, for simplifying the antenna patterns in an indoor facility (i.e, avoid overlapping beams in a small room).

Regarding claim **9**, the claim is rejected for the same reason as set forth in claim 8 above. In addition, since mounting antennas near the periphery (i.e, corners, entry) of a facility is well known in the art, it would have been obvious to one skilled in the art at the time the invention was made to modify Gong for providing said horizontally offset directional beams in a horizontally offset in position near the periphery of a facility as claimed, for maximizing a coverage area of a directional antenna beam in an indoor facility.

Regarding claim **10**, the claim is rejected for the same reason as set forth in claim 8 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify Gong for providing said horizontally offset directional beams in a horizontally offset in position to correspond to aisles in a facility as claimed, for simplifying the antenna patterns in an indoor facility (i.e, avoid overlapping beams in a hallway).

Regarding claim **11**, the claim is rejected for the same reason as set forth in claim 8 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify Gong for providing said antennas locating at selected heights for achieving selected pattern shapes as claimed, for reducing blockings/obstructions, thereby maximizing a coverage area of an antenna beam in an indoor facility.

5. Claims **12-14** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Duckworth** (US 7,072,669) in view of **Hassett** (US 5,406,275).

Regarding claim **12**, **Duckworth** would teach all the claimed limitations (see Figs. 1, 6-7 and col. 7, line 8 – col. 8, line 55) except for an axis of each of directional antenna patterns are arranged in parallel relation to each other. However, **Hassett** teach a location determination method wherein an axis of each of directional antenna patterns are arranged in parallel relation to each other (see Abstract and Fig. 1). Since **Duckworth** suggests that other antenna arrangements may be used (see col. 5, lines

14-20), and since one skilled in the art would recognize that antenna arrangements are designed based on the shape of the coverage area, it would have been obvious to one skilled in the art at the time the invention was made to modify **Duckworth** for providing antenna arrangements as shown in Fig. 1 of **Hassett** for a rectangular shaped coverage area as well, thereby providing antenna patterns with an axis of each of directional antenna patterns are arranged in parallel relation to each other as claimed, as an alternative way of covering a rectangular shaped coverage area.

Regarding claim **13**, the claim is rejected for the same reason as set forth in claim 12 above. In addition, **Duckworth** as modified in view of **Hassett**, would teach a first group of antenna patterns (i.e, a group of odd numbered antennas) radiate between a second group of antenna patterns (i.e, a group of even numbered antennas) as claimed (see Hassett, Fig. 1).

#### ***Allowable Subject Matter***

6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

7. Applicant's arguments filed 9/25/07 have been fully considered but they are not persuasive.

In the response, Applicant contends that

Currently amended claim 1 recites, inter alia, "...a system wherein at least some of said access points are provided with antennas having antenna patterns with selected pattern shape for enhancing location of said mobile units, said selected pattern shapes include horizontally offset directional antenna patterns:" (Emphasis added).

Gong generally relates to systems and method which provide for location positioning in wireless networks. (see Gong, Abstract). Specifically, the system is a processor-based system coupled to a plurality of APs via a network backbone, wherein the APs provide RF illumination of a service area using multiple antenna patterns. (See Id., ¶ [0027-0028]). The APs are illustrated as each having 10 directional antenna patterns and one omni-directional antenna pattern associated therewith. (see Id., ¶ [0029]; and Fig. 1A). Furthermore, as illustrated in Fig. 1A, the three APs of the system are arranged in a triangular pattern, wherein portions of the respective antenna patterns of the APs overlaps at various angles with each other (see Id., Fig. 1A). While the Gong disclosure states that the system is not limited to the illustrated embodiment of Fig. 1A, the only other embodiment disclosed by Gong includes an AP having a coverage radius of less than 360 degrees. (see Id., ¶ [0030]). Accordingly, several antenna patterns from the APs will intersect with one another, converging at multiple locations. It is important to note that while Gong discloses variation in the coverage radius of the APs, Gong fails to explicitly teach or suggest antenna patterns with "selected pattern shapes include horizontally offset directional antenna patterns," recited in claim 1.

The Examiner alleges that Gong anticipates a selected pattern shapes including horizontally offset directional antenna patterns. Specifically, in the rejection of currently canceled claim 2, the Examiner asserts that "Gong would teach said selected pattern shapes include horizontally offset directional antenna patterns." (See 06/27/07 Office Action, p. 4, ¶ 3). However, it is unclear as to where the Examiner finds support for this statement within the Gong disclosure. Specifically, the Examiner fails to indicate where Gong discloses the antenna patterns of the Gong disclosure as being horizontally offset. Thus, Applicant respectfully submits that for at least the reasons stated above, currently amended claim 1 of the present application is not anticipated by Gong, and request that the rejection of this claim be withdrawn.

In response, according the specification regarding "horizontally offset directional antenna patterns" in angular direction (Fig. 3 and [0007], [0018]), the Examiner asserts that Gong does teach "antenna patterns with selected pattern shapes include horizontally offset directional antenna patterns" as claimed (see Figs. 1B, 2A and [0028-0032]). Here, Fig. 1B clearly shows antenna patterns (111, 112, 113) with different horizontally offset directional antenna patterns. Fig. 2A also clearly shows antenna patterns (210-213) with different horizontally offset directional antenna patterns in angular direction. Further, the "smart antenna configuration" as recited by Gong in [0028] would implicitly teach "antenna patterns with selected pattern shapes include horizontally offset directional antenna patterns" as claimed.



For foregoing reasons, the examiner believes that the pending claims are not allowable over the cited prior art.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See the attached PTO-8492

9. **Any response to this final action should be mailed to:**  
Box A.F.

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Application/Control Number:  
10/748,988  
Art Unit: 2618

Page 9

**or faxed to:**

(571) 273-8300 (for **formal** communications intended for entry)

(571)-273-7893 (for informal or **draft** communications).

Hand-delivered responses should be brought to Customer Service Window,  
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry concerning this communication or communications from the examiner  
should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893,  
Monday-Thursday (9:00 AM - 5:00 PM).

Or to Nay Muang (Supervisor) whose telephone number is (571) 272-7882.

Duc M. Nguyen, P.E.

Nov 28, 2007

